

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: John G. McCarthy Examiner: Niketa Patel
Serial No.: 10/645,721 Group Art Unit: 2181
Filed: August 20, 2003 Docket No.: 100200842-1
Title: Method and Apparatus for Managing Device Reservation

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Appeal Brief is filed in response to the Final Office Action mailed July 19, 2006 and the Notice of Appeal filed October 14, 2006.

AUTHORIZATION TO DEBIT ACCOUNT

It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's deposit account no. 08-2025.

I. REAL PARTY IN INTEREST

The real party-in-interest is the assignee, Hewlett-Packard Company, a Delaware corporation, having its principal place of business in Palo Alto, California.

II. RELATED APPEALS AND INTERFERENCES

There are no known related appeals or interferences known to appellant, the appellant's legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the Appeal Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-6 and 8-11 are pending in the application and stand finally rejected. Claims 7 and 16 are canceled; claims 12-15 and 17-25 are withdrawn. The rejection of claims 1-6 and 8-11 is appealed.

IV. STATUS OF AMENDMENTS

No amendments were made after receipt of the Final Office Action. All amendments have been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R.

§ 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element or that these are the sole sources in the specification supporting the claim features.

Claim 1

Claim 1 is directed to a method. By way of example, Fig. 2 shows an exemplary method for reserving a device. The method recites two elements (i) and (ii) upon receiving a device command from a first host (see Fig. 2, #205, paragraph [0012]: Example, commands such as SCSI, iSCSI, and Fibre Channel are sent). Under element (i), the claim recites reserving for the first host a device targeted by the device command (see Fig. 2, #220, paragraph [0013 – 0014]). Under element (ii), the claim recites setting a reservation time period for expiration of the reservation, the reservation time period being determined based on a command type of the device command (see Fig. 2, #225, paragraphs [0013 – 0016]. By way of example, as noted in paragraph [0014], some commands require device reservation).

Claim 8

Claim 8 is directed to the method of claim 1, wherein the device command comprises one of a write command, a rewind command, a read command, a load command, an unload command, and a seek command (see Fig. 2 and description at paragraph [0014]).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 3 – 6, and 8 – 10 are rejected under 35 USC § 102(e) as being anticipated by US publication number 2003/0005130 (Cheng).

Claims 2 and 11 are rejected under 35 USC § 103(a) as being unpatentable over US publication number 2003/0005130 (Cheng).

VII. ARGUMENT

The rejection of claims 1-6 and 8-11 is improper, and Applicant respectfully requests withdrawal of this rejection.

The claims do not stand or fall together. Instead, Applicant presents separate arguments for various independent and dependent claims. Each of these arguments is separately argued below and presented with separate headings and sub-heading as required by 37 C.F.R. § 41.37(c)(1)(vii).

Claim Rejections: 35 USC § 102(e)

Claims 1, 3 – 6, and 8 – 10 are rejected under 35 USC § 102(e) as being anticipated by US publication number 2003/0005130 (Cheng). Applicant respectfully traverses.

Overview of Cheng

Cheng is directed to systems and methods that transfer audio-video information via a Universal Plug and Play (UPnP) network. Fig. 1 in Cheng shows a block diagram of a system 100 having UPnP enabling logic 120 in a host system 110 that interacts with controlled or slave devices 171, 181. As shown in Fig. 3, the enabling logic 120 includes various manager modules, such as 310, 320, and 330.

Fig. 4 shows a diagram showing how a reservation process works when a manager attempts to reserve a resource. Initially, a requestor sends a request that may be either a RESERVE or RELEASE message to a resource manager, such as resource manager 320 of Fig. 3 (see paragraph [0048]). If the message is a RESERVE request, then the resource manager attempts to reserve the resource. The request can reserve a resource for a period of time, known as the reservation time period. In Cheng, the reservation time period is based on time periods specified in the request itself and not based on a type of command received (see paragraph [0052]).

Claim 1

As recited in claim 1, a host sends a device command to reserve a targeted device. The target device is reserved for a reservation time period. In contrast to Cheng, claim 1 recites that “the reservation time period [is] determined based on a **command type** of the device command” (emphasis added). In other words, claim 1 expressly recites how the reservation time period is determined: The reservation time period is determined based on “command type” of the device command. Applicant’s specification clearly supports this recitation:

After the command is received, a determination is made as to whether the command is of a predetermined type that requires device reservation.... (See paragraph [0013]).

By way of example, if the device 100 is a tape device, commands that result in motion of the tape may require device reservation, while commands that do not affect the tape media may not require device reservation. For example, write, read, seek, rewind, load, and unload commands may be commands that require reservation. Providing a reservation method for these types of commands can prevent other hosts from interfering with a data transfer operation of the requesting host. (See paragraph [0013]).

Although Cheng teaches RESERVE and RELEASE commands having message bodies that specify a “starting time” and an “ending time” of a “reservation time period,” Cheng provides no indication that a “reservation time period” is determined based on a **“command type.”** Rather, Cheng only teaches that a “reservation time period” may be determined from explicitly specified starting and ending times.

Applicant respectfully states that in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he elements must be arranged as required by the claim,” see M.P.E.P. § 2131, citing *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990).

For at least these reasons, claim 1 and its dependent claims are allowable over Cheng.

Claim 8

Claim 8 is directed to the method of claim 1, wherein the device command comprises one of a write command, a rewind command, a read command, a load command, an unload command, and a seek command (see Fig. 2 and description at paragraph [0014]). Cheng teaches RESERVE and RELEASE commands having message bodies that specify a “starting time” and an “ending time” of a “reservation time period.” Nowhere does Cheng teach that a “reservation time period” is determined based on a “command type” that comprises one of “of a write command, a rewind command, a read command, a load command, an unload command, and a seek command.”

For at least these reasons, dependent claim 8 is allowable over Cheng.

Claim Rejections: 35 USC § 103(a)

Claims 2 and 11 are rejected under 35 USC § 103(a) as being unpatentable over US publication number 2003/0005130 (Cheng). Applicants respectfully traverse.

Claims 2 and 11 depend from independent claim 1. As noted above, Cheng does not teach or even suggest recites that “the reservation time period [is] determined based on a command type of the device command” (emphasis added). In other words, for at least the reasons provided in connection with independent claim 1, dependent claims 2 and 11 are allowable over Cheng.

CONCLUSION

In view of the above, Applicant respectfully requests the Board of Appeals to reverse the Examiner's rejection of all pending claims.

Any inquiry regarding this Amendment and Response should be directed to Philip S. Lyren at Telephone No. 832-236-5529. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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VIII. Claims Appendix

1. A method comprising:

upon receiving a device command from a first host,
i) reserving for the first host a device targeted by the device command; and
ii) setting a reservation time period for expiration of the reservation, the reservation time period being determined based on a command type of the device command.

2. The method of claim 1, further comprising upon receiving a second device command from the first host, resetting the reservation time period.

3. The method of claim 1, further comprising:

upon receiving a device command targeted to the device from a second host,
determining if the device is reserved; and
if the device is reserved to a host other than the second host , denying the device command from the second host.

4. The method of claim 3, wherein determining if the device is reserved comprises determining if the reservation time period has expired.

5. The method of claim 3, further comprising if the device is not reserved, executing the device command from the second host.

6. The method of claim 3, wherein the device command from the second host comprises a clear command.

7. (cancelled)

8. The method of claim 1, wherein the device command comprises one of a write command, a rewind command, a read command, a load command, an unload command, and a seek command.
9. The method of claim 1, wherein the device command comprises a tape device command.
10. The method of claim 1, wherein the device command comprises a disk device command.
11. The method of claim 1, wherein the device command comprises a Small Computer System Interface (SCSI) command.
12. A method comprising:
 - upon receiving a first command of a predetermined type from a first host, and if a device targeted by the first command is not reserved,
 - i) reserving the device for the first host; and
 - ii) setting a predefined reservation time period for expiration of the reservation, the predefined reservation time period not being specified by the first device command;
 - upon receiving a subsequent command of a predetermined type from the first host, while the device is reserved for the first host, resetting the reservation time period; and
 - upon receiving the subsequent command of a predetermined type from the first host, when the reservation status is not reserved for the first host, processing the subsequent command as the first command.
13. The method of claim 12, further comprising upon receiving a second command of a predetermined type targeted to the device from a second host, while the device is reserved for the first host, denying the second command.

14. The method of claim 13, wherein the second command comprises one of a write command, a rewind command, a read command, a load command, an unload command, and a seek command.

15. The method of claim 13, wherein the second command comprises a clear command.

16. (cancelled)

17. The method of claim 16, wherein the first command and the second command comprise Small Computer Systems Interface (SCSI) commands.

18. The method of claim 17, wherein the second command comprises one of an inquiry command, a request sense command, and a log sense command.

19. An apparatus comprising:

an interface to receive commands from a plurality of hosts;
a reservation agent, communicatively coupled to the interface, the reservation agent to determine if a device targeted by a first command is reserved, and if the device is not reserved, to reserve the device for a first host initiating the first command, and to set a reservation time period for expiration of the reservation, the reservation time period being based on a command type of the device command.

20. The apparatus of claim 19, wherein the reservation agent is further to deny a second command targeted to the device received from a second host while the device is reserved to the first host.

21. The apparatus of claim 19, wherein the reservation agent is further to reset the reservation time period upon receiving a second command targeted to the device from the first host while the device is reserved for the first host.

22. An apparatus comprising:

first means for receiving commands from a plurality of hosts; and second means, communicatively coupled to the first means, for determining if a device targeted by a first command is reserved, for reserving the device for a first host initiating the first command upon receiving the first command while the device is not reserved, and for setting a reservation time period for expiration of the reservation, the reservation time period being based on a command type of the device command.

23. The apparatus of claim 22, wherein the second means further comprises means for denying a second command targeted to the device received from a second host while the device is reserved for the first host.

24. A method comprising:

- upon receiving a device command from a first host,
- i) reserving for the first host a device targeted by the device command; and
 - ii) setting a predefined reservation time period for expiration of the reservation, the predefined reservation time period not being specified by the device command.

25. A method comprising:

- upon receiving a device command from a first host,
- i) reserving for the first host a device targeted by the device command; and
 - ii) setting a reservation time period for expiration of the reservation, the reservation time period being set to begin running after the device command has executed.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.